

Remarks

This Amendment is in response to the Final Office Action dated **August 18, 2009**.

In the Final Office Action, claim 34 was asserted to be independent and distinct and was withdrawn from consideration; claims 1, 6, 8, 15, 24 32 and 33 were rejected under 35 USC 102(b) as being anticipated by Kanesaka (5,810,872); claims 2, 4, 5, 7, 9-13, 18-21, 23, and 29-31 were rejected under 35 USC 103(a) as being unpatentable over Kanesaka (5,810,872); and claims 14, 16 and 22 were rejected under 35 USC 103(a) as being unpatentable over Kanesaka (5,810,872) in view of Becker (6,117,165).

Claim 35, presented in the Amendment of May 13, 2009, was not addressed in the Final Office Action. Applicant, therefore, requests that a new Final Office Action be issued which addresses claim 35, in light of the comments below. Because claim 35 was not formally addressed in the Final Office Action, Applicant has listed its status as 'Previously Presented'.

Restriction

In the Final Office Action, claim 34 was asserted to be directed to an invention that is independent or distinct from the invention originally claimed because it features a zig-zag pattern claim limitation not previously present in the embodiments originally claimed. Therefore claim 34 was withdrawn.

Applicants note that claim 34 recites “said zig-zag members defined by a successive series of struts connected by apex sections alternately pointing in first and second axial directions” and that the underlined portion of this recitation can be found at least in claim 1 as filed (see also e.g. paragraphs [0004]; [0020]-[0021]; [0023] of the application as filed). Applicants submit that at least claim 1 as filed reads upon zig-zag members.

Moreover, Applicants submit that claim 34 is readable upon Fig. 5, the provisionally elected species. Paragraph [0037] of the application as filed states in part:

flat for purposes of illustration. Stent **30** is formed by winding a continuous filament such as a wire **24** into a zig-zag configuration and into a plurality of circumferential hoop members **33**, **25a** . . . **25N**, and **37** disposed in succession along the axis of stent **30**. Wire **24** is extended to and around pins **23a**, **23b**, **23c** and so forth. In this manner, zig-zag members are formed and defined by a successive series of substantially straight sections **34** connected by apex sections **35** alternately pointing in opposite axial directions.

Applicants note that the Office Action did not provide reasons why claim 34 is not readable on the provisionally elected species as required by MPEP 821.¹

Based on the above, Applicants request withdrawal of the restriction of claim 34.

Applicants also request that claim 35, which was not addressed in the Final Office Action, be examined.

Amendments to the Claims

Applicants amended claim 24 to correct a typographical error made when the claims were typed for the Response to Restriction Requirement. Claim 24 on 4/16/2008 recited “450 degrees” whereas claim 24 presented in the Response to Restriction Requirement submitted November 7, 2008 recited “430 degrees.” Applicants apologize for overlooking the typographical error.

Applicants note that the inadvertent change of 450 to 430 was not underlined as required by amendment practice nor did the status identifier indicate that the claim was being amendment, as required by 37 CFR 1.121.

Applicants, nevertheless, request entry of the amendment to claim 24 because 450 degrees has already been examined and considered with respect to claim 24 before the typographical error and with respect to independent claim 5.²

¹ “The examiner should clearly set forth in the Office action the reasons why the claims withdrawn from consideration are not readable on the elected invention.”

² Independent claim 5 recites in part:

said stent further comprising a plurality of connecting members uniformly distributed along the stent according to a helical spacing of once approximately every 450 degrees

35 USC 102

In the Final Office Action, claims 1, 6, 8, 15, 24, 32, and 33 were rejected under 35 USC 102(b) as being anticipated by Kanesaka (5,810,872).

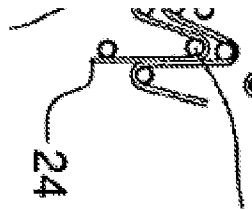
Applicants note that claim 15 is not pending as it was cancelled during prosecution.

Kanesaka does not teach a direct connection as recited in the instant claims

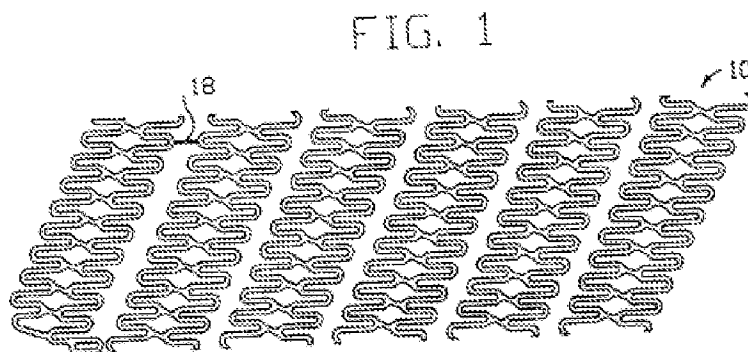
Specifically, independent claims 1, 6, 8, 32 each recite in part:

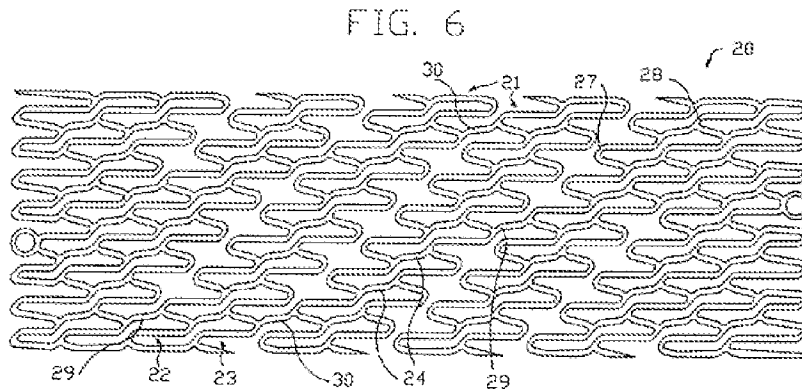
a direct connection between a linear portion of the first strut that lies side by side with a linear portion of the second strut

An example of a direct connection between the linear portions of two struts that lie side by side is shown, for example in Fig. 5 of the instant application as filed, a portion of which is provided for reference:



In contrast, the bridging strut 18 and joining members 29 are *connectors* that extend between two elements of the stent of Kanesaka, as shown in Figs. 1 and 6:





The Final Office Action asserted that “portions 18, as well as all of the portions connecting element 19, are direct connections.” The instant claims recite a direct connection or a separate bridging member, which indicates that a direct connection is different from a separate bridging member. For at least these reasons, Kanesaka does not teach a direct connection as recited in the instant claims.

Kanesaka does not disclose a separate bridging member
welded to a first strut and to a second strut

Specifically, independent claims 1, 6, 8, 32 each recite in part:

a separate bridging member having a first portion welded to the first strut and a second portion welded to the second strut

Kanesaka does not disclose welding. Therefore, Kanesaka does not disclose a separate bridging member as recited in the instant claims.

Kanesaka does not teach a helical spacing of 450 degrees

Specifically, claim 24 recites in part:

a plurality of connecting members uniformly distributed along the stent according to a helical spacing of once approximately every 450 degrees

The Final Office Action asserted:

as is well shown in fig. 6 and as explained somewhat in the specification, the connection element 29 is distributed once every full turn plus one “peak” or connection. Since there are eight “peaks”, each peak comprises 45 degrees of a winding. So, one full winding plus one peak would generally be equal to approximately 415 degrees.

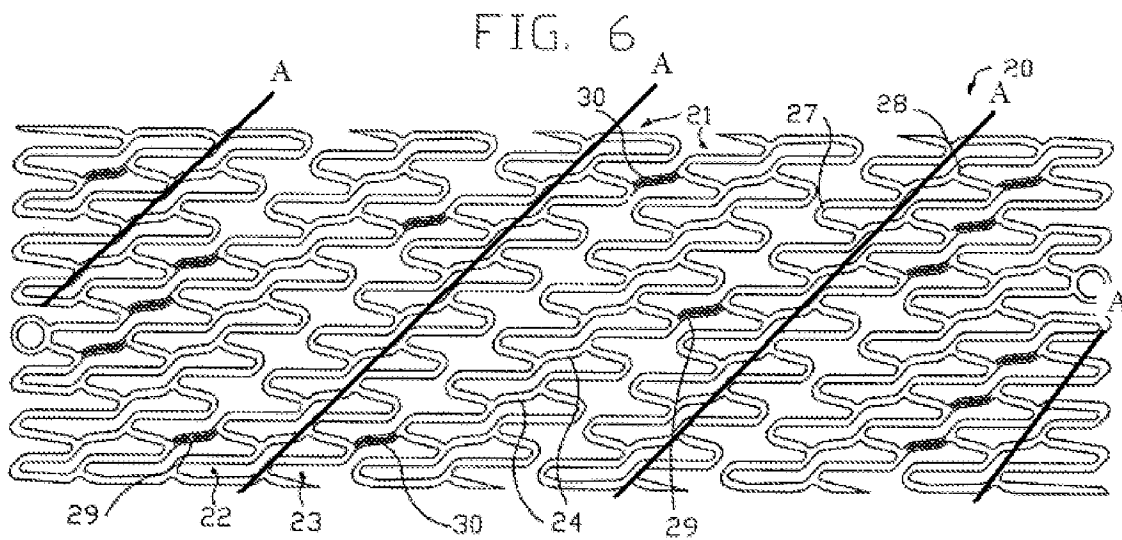
Applicants were unable to find any discussion in the specification of Kanesaka as to the spacing of the joining members 29. Moreover, Fig. 6 does not support the assertion in the Final Office Action.

In regards to Fig. 6, Kanesaka states:

Figs. 6 and 7 show a second embodiment 20 of a stent ... formed by spirally winding two strips 21 situated adjacent to each other. The strip 21 includes two tortuous members 22,23 connected by connecting members or joint struts 24 ...

two strips 21 are joined by joining members 29 and are wound spirally in a circular shape, and the wound strips in the circular shape are partly connected by bridge struts 30 to prevent unwinding.
(Col. 4, line 51 to col. 5, line 2)

Thus, the two strips 21 are connected by both joining members 29 and bridge struts 30. For reference, Applicants have provided Fig. 6 of Kanesaka annotated so that all connecting members 29,30 between the two strips 21 are shaded dark grey and one strip is indicated by line A:



As shown above, the two strips 21 are connected one to another by the joining members 29 and the bridge struts 30 at variable intervals. Thus, joining members 29 and the bridge struts 30 are not uniformly distributed. Moreover the joining members 29 and the bridge struts 30 are not spaced once approximately once every 450 degrees.

Even if the bridging members 29 and the bridge struts 30 were considered

separately, neither are uniformly distributed nor spaced once approximately every 450 degrees. As shown above, the bridging member 29 labeled at the bottom left is separated from the next bridging member (not labeled) by four convex or concave portions 27,28 and that bridging member 29 is separated from the next bridging member (labeled) by at least 5 convex or concave portions 27,28. None of the three bridging members 29 are separated from the next bridging member by 450 degrees. An analysis of the bridge struts 30 produces similar results.

Based on the above, Kanesaka does not teach a plurality of connecting members uniformly distributed, let alone a spacing of once approximately every 450 degrees as recited in claim 24.

Kanesaka does not disclose a connecting member that is a bridging member with a first end aligned with and connected to said first strut and a second end aligned with and connected to said second strut

Specifically, claim 33 recites in part:

a plurality of circumferential hoops ... each of said hoops comprising elements defined by a successive series of struts connected by apex sections ...

at least one pair of adjacent hoops being connected to one another by a connecting member, said connecting member connecting a first strut, which is part of one of said connected adjacent hoops, to a second strut, which is part of the other of said adjacent hoops,

wherein axially opposed apex sections of adjacent hoops are axially spaced from one another and said connecting member is a bridging member with a first end aligned with and connected to said first strut and a second end aligned with and connected to said second strut

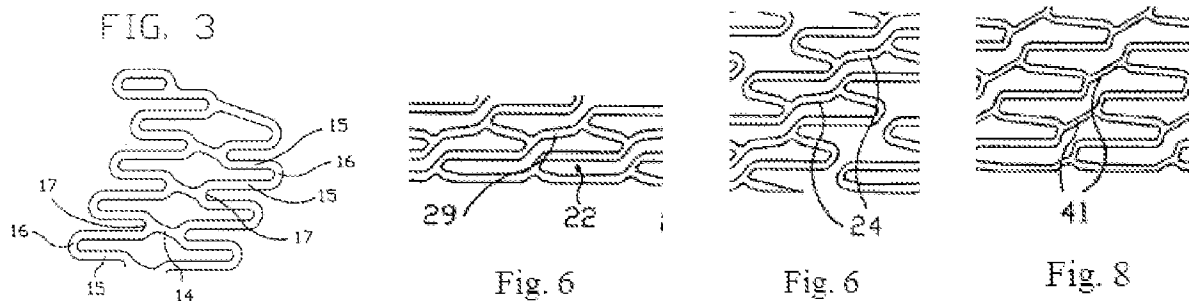
With regard to struts and apex sections as recited in claim 33, the instant application states:

Each of the hoops has zig-zag or sinusoidal members defined by a successive series of struts connected by apex sections alternately pointing in opposite axial directions. The struts may be substantially straight sections connected to essentially sharp apex sections in a jagged zig-zag configuration, or the apex sections may be more rounded so that together with the struts there is formed a sinusoidal configuration.

(paragraph [0004]; see also e.g. paragraphs [0023]-[0024], [0030], [0036])

Applicants submit that a strut as recited in the instant claims does not include an apex section. Applicants further submit that this interpretation is “consistent with the interpretation that those skilled in the art would reach” (MPEP 2111). As can be seen by the discussion of Kanesaka below, Kanesaka differentiates between struts and the turns connecting adjacent struts (e.g. apex sections as recited in the instant claims).

The ends of the joint struts 14, the joining members 29, the joint struts 24, and the joint struts 41 of Kanesaka, are not aligned with struts 15,25,26,37,38 but instead are at an angle to the struts 15,25,26,37,38, as shown in Figs. 3, 6, and 8:³



Moreover, the bridge struts 18, the joint struts, 14, the joining members 29, the joint struts 24, and the joint struts 41 of Kanesaka are connected to convex portions 16,17,27,28 and connecting portions 40, not to struts 15,25,26,37,38, as shown in Figs. 3, 6 and 8 above, and Fig. 1 below:⁴



Fig. 1

The struts 15,25,26,37,38 of Kanesaka are engaged to adjacent struts 15,25,26,37,38 either by convex portions 16,17,27,28 or by connecting portions 40, as shown in

³ See also col. 3, line 59: “The connecting members 14 extend diagonally”; and col. 4, line 64: “diagonal connecting members 24”

⁴ see also col. 3, lines 58-60: “The tortuous members 12,13 are connected by the connecting members 14 at the convex portions 17”;

col. 4, lines 63-65: “The tortuous members 22,23 are connected by the diagonal connecting members 24 at the convex portions 28”

the figures above.⁵

Based on the above, Applicants submit that Kanesaka does not teach each and every element of independent claim 33.

Conclusion

Based on the above, Kanesaka does not teach each and every element of the instant claims. Therefore, Kanesaka does not anticipate claims 1, 6, 8, 15, 24, 32, and 33. Applicants request withdrawal of the rejection and submit that claims 1, 6, 8, 15, 24, 32, and 33 are in condition for allowance.

35 USC 103 - Kanesaka

In the Final Office Action, claims 2, 4, 5, 7, 9-13, 18-21, 23, and 29-31 were rejected under 35 USC 103(a) as being unpatentable over Kanesaka (5,810,872).

Claims 2, 4 and 29-31 depend upon independent claim 1. Claim 7 depends upon independent claim 6. Claims 9-13 depend upon independent claim 8. As discussed above, Kanesaka does not teach each and every element of independent claims 1, 6, and 8. For at least this reason, Kanesaka does not render claims 2, 4, 7, 9-13, and 29-31 obvious.

Claims 18-21 and 23 depend upon independent claim 14. The Final Office Action rejected claim 14 as being unpatentable over Kanesaka in view of Becker. Therefore, it is not seen how Kanesaka by itself can render claims 18-21 and 23 obvious in view of the Office Action's reliance on the combination of Kanesaka and Becker to reject independent claim 14.

Kanesaka does not render independent claim 5 obvious. Independent claim 5 recites in part:

- (a) a direct connection between a linear portion of the first strut that lies side by side with a linear portion of the second strut, or

⁵ see also col. 3, lines 54-56: "As shown in Fig. 3, each of the tortuous members 12,13 is formed of a plurality of parallel members or struts 15 and convex portions 16,17 for connecting the struts 15"; col. 4, lines 55-58: "As shown in Fig. 7, each of the tortuous members 22, 23 is formed of a plurality of struts 25,26 and convex or connecting portions 27, 28 for connecting the struts 25,26"; and col. 5, lines 17-21: "The tortuous member 36 includes long struts 37, and short struts 38 ... Connecting portions 40 connect the short and long struts 37,38 to form the tortuous member 36".

(b) a separate bridging member having a first portion welded to the first strut and a second portion welded to the second strut

said stent further comprising a plurality of connecting members uniformly distributed along the stent according to a helical spacing of once approximately every 450 degrees

As discussed above, Kanesaka does not teach a direct connection, welding, or connecting members uniformly distributed along the stent according to a helical spacing of once approximately every 450 degrees. Therefore, Applicants submit that Kanesaka does not render independent claim 5 obvious.

The Final Office Action asserted that “claim 5 is rejected with regards to the case law that indicates that changes in values absent some convincing proof of their significance would be obvious to one of ordinary skill in the art. Here, none has been given.”

The instant application states “connecting members 48a-N are uniformly distributed in a helical spacing approximately every 450° along the length of the stent to form a helical spine” (paragraph [0047]). With reference to the spine, the instant application states:

Connective spine 16 lends strength, including hoop strength, to stent 10 during and after implantation to better resist compressive forces within the vessel in which stent 10 is implanted. Connective spine 16 also allows flexibility, however, such that stent 10 may be easily compressed and expanded during the insertion process. (paragraph [0028]; see also paragraphs [0004]-[0005]; [0030]⁶; [0045] and [0047])

Based on the above, Applicants request withdrawal of the rejection and submit that claims 2, 4, 5, 7, 9-13, 18-21, 23, and 29-31 are in condition for allowance.

35 USC 103 – Kanesaka and Becker

In the Final Office Action, claims 14, 16, and 22 were rejected under 35 USC 103(a) as being unpatentable over Kanesaka (5,810,872) in view of Becker (6,117,165).

Becker is not prior art to the instant application. Becker was filed June 10, 1998 and was published as a patent on September 12, 2000. The instant application claims priority to

⁶ “The strength and rigidity of stent 10A increase with the addition of connective spines 16.”

March 5, 1998. Thus, Becker is not prior art under 35 USC 102(a), 35 USC 102(b), or 35 USC 102(e)(2).

Applicants request withdrawal of the rejection and submit that claims 14, 16, and 22 are in condition for allowance.

Conclusion

Based on at least the above, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-2, 4-14, 16, 18-24, and 29-35 is requested.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,
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